

REMARKS

The Office Action addresses claims 1-4, 6-10, 12, and 13, of which claims 1-4 and 6-10 stand rejected under 35 U.S.C. § 103. Claims 12 and 13 have been found to define allowable subject matter, but they stand objected to as being dependent upon a rejected base claim. Reconsideration is respectfully requested in view of the following remarks.

Amendments to the Claims

Applicant adds new claims 54 and 55, with claim 54 being an independent claim and claim 55 depending therefrom. New independent claim 54 corresponds to claim 12 rewritten in independent form, including all of the limitations of the base claim, and new dependent claim 55 corresponds to pending dependent claim 13. Applicant also adds new claims 56-66, with claim 56 being an independent claim and the remainder of the claims depending therefrom. New independent claim 56 corresponds to claim 1 with the additional recitation that the midline marker embeds in a face of *only a single* vertebral body. Support for the addition of this recitation can be found throughout the specification, but at least at page 13, lines 15-21, page 17, lines 23-25, page 18, lines 1-18, and FIGS. 3A, 3B, 4B, 6C, and FIGS. 12A-12D. Applicant also amends claims 1, 6, and 13 to fix typographical errors. No new matter is added.

Rejections Pursuant to 35 U.S.C. § 103(a)

Robie, in view of Landry

The Examiner rejects claims 1, 2, and 6-10 pursuant to 35 U.S.C. § 103(a) as being obvious over U.S. Patent Application Publication No. 2002/0161366 to Robie et al. ("Robie") in view of U.S. Patent Application Publication No. 2003/0233145 to Landry et al. ("Landry"). The Examiner argues that the claimed method is taught by Robie, except that Robie does not teach the use of a midline marker as a guide. The Examiner relies on Landry to teach this missing element. At least because Robie does not teach a method that relies on marking a midline and thus does not include teaching a device to mark a midline of a vertebral body, Applicant disagrees.

Claim 1 is directed to a method for implanting an artificial disc in an intervertebral space in which a portion of a midline marker embeds in a face of a vertebral body and the midline marker is used as a guide to insert an artificial disc in an intervertebral space. In his rejection the Examiner

indicates that the vertebrae immobilizing template (50) of Robie is attached to a vertebral body and is a midline marker.

Applicant traverses this rejection because Robie fails to teach or even suggest anything that can be regarded as a midline marker. In fact, Robie fails to teach any structure that is imbedded in a face of a vertebral body to mark a midline or midpoint. Robie instead discloses a vertebrae immobilizing template (50). The purpose of this device is not to mark a midline, but rather to *immobilize the two vertebrae* into which the template is impacted.

Robie teaches a method in which a distractor (10) is first placed into a disc space between two adjacent vertebral bodies to distract the bodies. *See* page 2, paragraph [0028]. However, there is no indication that this distractor (10) is placed along any sort of midline or midpoint; it is only taught that the distractor (10) distracts the two adjacent vertebral bodies. The vertebral immobilizing template (50) is then aligned with the distractor (10) and placed about the distractor (10). *See* page 2, paragraph [0032], page 3, paragraph [0034], and page 4, paragraph [0058]. Because the distractor (10) is not necessarily placed along any sort of midline or midpoint, and the vertebral immobilizing template (50) is aligned with the distractor (10), the vertebral immobilizing template (50) likewise is not placed along any sort of midline or midpoint. Subsequently, prongs (56) of the vertebral immobilizing template (50) are impacted into each of the two vertebral bodies *to fix the positions* of the vertebral bodies. *See* page 3, paragraph [0034] and page 4, paragraph [0058]. (Emphasis added.)

The only mention of a midline in Robie is found on page 4 in paragraph [0050], where it is taught that needle(s) are inserted *into the intervertebral disc* as markers, positioned along the midline, and a radiograph is taken to assure that the location is proper. Robie's needles mark a midline of are embedded into the *implanted intervertebral disc*, not the midline of the vertebral bodies. The teaching relating to the identification of the midline of a disc does not suggest the use of Robie's vertebral immobilizing template (50) to mark a midline as claimed by Applicants.

Landry fails to remedy the deficiencies of Robie because it too fails to teach embedding a component into a face of a vertebral body to mark a midline. Landry does not disclose embedding a component into a face of a vertebral body at all, let alone to mark a midline. Accordingly, it cannot be said that Landry, or the combination of Robie and Landry, teaches a method that embeds a midline marker into a face of a vertebral body.

Claim 1, as well as claims 2 and 6-10 which depend therefrom, are thus allowable over Robie in view of Landry.

Robie, in view of Landry, in further view of Michelson

The Examiner also rejects dependent claims 3 and 4 pursuant to 35 U.S.C. § 103(a) as being obvious over Robie in view of Landry in further view of the U.S. Patent Application Publication No. 2002/0058944 to Michelson ("Michelson"). As noted above, claim 1 is allowable over Robie in view of Landry. Michelson, which the Examiner relies on to teach radiographical markers, also does not disclose a method that includes fixing a position of a midline marker such that a portion of the midline marker embeds in a face of a vertebral body. Thus Michelson likewise fails to remedy the deficiencies of Robie and Landry. Accordingly, claims 3 and 4 are also allowable over Robie in view of Landry in further view of Michelson.

New Claims

Claims 54 and 55

New independent claim 54, which corresponds to claim 12 rewritten in independent form, is allowable over each of the prior art references, either alone or in combination, at least because the Examiner found claim 12 to be allowable if rewritten in independent form. Similarly, claim 55, which depends from claim 54 and corresponds to claim 13, is also allowable over each of the prior art references, either alone or in combination, for the same reason, and because it depends from an allowable base claim.

Claims 56-66

New independent claim 56, which corresponds to claim 1 with the additional recitation that the midline marker embeds in a face of *only a single* vertebral body, is allowable over each of the prior art references, either alone or in combination, at least because none of the prior art references teach or even suggest embedding a midline marker in a face of *only a single* vertebral body. It is also allowable for the same reasons discussed above with respect to claim 1 because claim 56 includes each of the recitations of claim 1 in addition to the aforementioned additional recitation.

While Robie does teach embedding a vertebral immobilizing template (50) into *two* vertebral bodies, it does not teach or even suggest embedding the vertebral immobilizing template (50) into *only a single* vertebral body. See page 2, paragraph [0032], page 3, paragraph [0034], and page 4, paragraph [0058]. (Emphasis added.) In fact, because the purpose of the vertebral immobilizing template is to immobilize *both* vertebral bodies, it can not be said that the vertebral immobilizing template (50) could ever be embedded in *only a single* vertebral body without changing the entire principle and purpose of the invention. *Id.* (Emphasis added.) Further, neither Landry nor Michelson teach or even suggest embedding any structure in a face of a vertebral body, let alone in a face of *only a single* vertebral body.

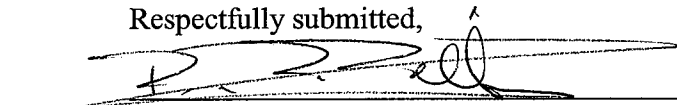
Accordingly, new independent claim 56, as well as claims 57-66 which depend therefrom, are allowable over each of the prior art references, either alone or in combination.

Conclusion

Claims 1-4, 6-10, 12, 13, and 54-66 distinguish over the references cited by the Examiner and are in a condition for allowance. Applicants respectfully request that the Examiner reconsider the claim rejections and objections and allow claims 1-4, 6-10, 12, 13, and 54-66. If the Examiner believes that an interview would facilitate the resolution of any outstanding issues, he is kindly requested to contact the undersigned.

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Respectfully submitted,



Rory P. Pheiffer
Reg. No. 59,659
Attorney for Applicants

Nutter McClennen & Fish LLP
World Trade Center West
155 Seaport Boulevard
Boston, MA 02210
Tel: (617)439-2879
Fax: (617)310-9879